

In the Claims



Please amend the claims as follows:

1. (Currently Amended) An oil cooling system for combustion engines comprising:
a) means for transporting oil from a sump and returning it thereto;
b) means for cooling said oil when the temperature thereof exceeds a pre-selected high limit; and
c) a thermo-reactive valve that prohibits oil flow into said oil cooling means until the temperature of said oil reaches said pre-selected high limit and responds accordingly by opening and encouraging the flow of oil into said oil cooling means as long as said high limit condition exists, wherein said oil transport means comprises:
a) an oil cooling conduit for transferring said oil through the cooling cycle, said conduit including an intake line having an intake port on the distal end thereof and a return line having an outlet port on the distal end thereof wherein said intake port and said outlet port are disposed within a lower portion of said oil sump;
b) an oil pump in line with said oil conduit for cycling said oil through said oil cooling system;
c) a by-pass conduit in fluent communication with said return line and said intake line disposed between said oil pump and said thermo-reactive valve; and
d) an electrical by-pass valve in line with said by-pass conduit to selectively permit or restrict said oil from passing through said by-pass valve.

2. (Cancelled)

3. (Currently Amended) An oil cooling system for combustion engines as recited in claim 1, wherein said oil cooling means comprises:
a) a radiator through which said bypass conduit passes in a substantially serpentine

manner wherein a plurality of heat sink elements are in physical engagement with said oil cooling conduit;

b) a fan to provide air flow over said radiator to disperse the radiant heat transferred to said conduit and heat sinks from said oil flowing therethrough.

4. (Currently Amended) An oil cooling system for combustion engines as recited in claim † 3, wherein said oil ~~temperature monitoring~~ cooling means is an electrical heat switch in electrical communication between a power source, said fan, by-pass valve and electrical heat switch with a temperature sensor in internal communication with said oil conduit.

5. (Currently Amended) An oil cooling system for combustion engines as recited in claim 2 4, wherein said oil pump is in operation whenever the engine is operating thereby providing a constant flow of oil from said oil sump to said temperature sensor of said electrical heat switch and to said thermo-reactive valve.

6. (Currently Amended) An oil cooling system for combustion engines as recited in claim 2 1, wherein said by-pass valve is wired in parallel with said fan so the two operate simultaneously as dictated by said electrical heat switch.

7. (Currently Amended) An oil cooling system for combustion engines as recited in claim 2 1, wherein during engine operation said oil pump pulls said oil from said oil sump and delivers it to said thermo-reactive valve which remains closed as long as the oil temperature remains below a predetermined temperature thereby routing said oil through said by-pass valve and back into said oil sump.

8. (Original) An oil cooling system for combustion engines as recited in claim 7, wherein said thermo-reactive valve responds to a high temperature condition once the oil exceeds a predetermined temperature by opening gradually and letting the heated oil travel

therethrough to said oil cooling filter and through said radiator where said heat sink elements draw the excessive heat therefrom.

9. (Original) An oil cooling system for combustion engines as recited in claim 8, wherein said temperature sensor of said electrical heat switch detects a high oil temperature level that is equivalent to the temperature required to fully open said thermo-reactive valve and closes and completes the electrical circuit to said oil cooling fan and said by-pass valve, wherein said by-pass valve closes to route all oil to said radiator and said fan activates to blow an air current through said oil cooling radiator and heat sink elements to disburse the excessive heat therefrom, thereby effectively reducing the temperature of said oil passing therethrough prior to returning it to said sump.

10. (Original) An oil cooling system for combustion engines as recited in claim 1, wherein said thermo-reactive valve is a thermostatic expansion valve.

11. (Currently Amended) An oil cooling system for combustion engines as recited in claim 2 1, wherein said oil intake port further includes a strainer element to prevent any foreign solid matter from entering the oil cooling system.

12. (Original) An oil cooling system for combustion engines as recited in claim 5, wherein said oil pump is mechanically driven by said engine during the operation thereof.

13. (Currently Amended) An oil cooling system for combustion engines as recited in claim 2 1, further including a counter-backflow loop wherein said conduit of said return line from said radiator is looped in an arrangement affording the highest portion thereof to be disposed on a horizontal plane at least equal to the highest point of said intake line to said radiator to prevent said oil within said oil cooling system from draining back into said sump when not in use thereby maintaining a consistent quantity of oil level within said sump and said engine that is not affected by the operation of the present invention.

14. (Original) An oil cooling system for combustion engines as recited in claim 1, that is manufactured integral with said engine.

15. (Original) An oil cooling system for combustion engines as recited in claim 1, that is independent and may be retrofit to existing engines.

16. (Original) An oil cooling system for combustion engines as recited in claim 3, wherein said radiator further includes an oil fill port with fill cap disposed on a top portion thereof to enable the user to add said oil as needed.

17. (Original) An oil cooling system for combustion engines as recited in claim 3, wherein said radiator further includes an oil drain to enable the user to selectively remove oil from said radiator.

18. (Original) An oil cooling system for combustion engines as recited in claim 3, wherein said oil cooling means further includes an oil filter to filter said oil prior to its introduction to said oil-cooling radiator thereby providing double filtration of said oil as said oil is also filtered through the oil filter of a typical engine once returned to said sump.